PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Akira MIYAKE, et al.

Docket No: Q66067

Appln. No.: 09/965,830

Group Art Unit: 1647

Confirmation No.: 3999

Examiner: J. Seharaseyon

Filed: October 01, 2001

For: NOVEL POTASSIUM CHANNEL PROTEIN

SUBMISSION OF DRAWINGS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find 6 sheet(s) of drawings in compliance with 37 C.F.R. §1.84. The Examiner is respectfully requested to acknowledge receipt of these drawings.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Drew Hissong
Registration No. 44,765

Date: October 20, 2003

FIG. 1

```
1    MPAMRGLLAPQNTFLDTIATRFDGTHSNFVLGNAQVAGLFPVVYCSDGFC
1    MPVMKGLLAPQNTFLDTIATRFDGTHSNFLLANAQGTRGFPIVYCSDGFC

51   DLTGFSRAEVMQRGCACSFLYGPDTSELVRQQIRKALDEMKEFKAELILY
51   ELTGYGRTEVMQKTCSCRFLYGPETSEPALQRLHKALEGHQEHRAEICFY

101  RKSGLPFWCLLDVIPIKNEKGEVALFLVSHKDISETKNRG-GPDRWKETG
101  RKDGSAFWCLLDMMPIKNEMGEVVLFLFSFKDITQSGSPGLGPQQGGRGDS

150  GGRRRYGR-ARSKGFNANRRRSRAVLYHLSGHLQKQPKGKHKLNKGVFGE
151  NHENSLGRRGATWKFRSARRRSRTVLHRLTGHFGRRGQGGMKANNNVFEP

199  KPHLPEYKVAAIRKSPFILLHCGALRATWDGFILLATLYVAVTVPYSVCV
201  KPSVPEYKVASVGGSRCLLLHYSVSKAIWDGLILLATFYVAVTVPYNVCF

249  STAREPSAARGPPSVCDLAVEVLFILDIVLNFRTTFVSKSGQVVFAPKSI
251  SGDDDTPITSRHTLVSDIAVEMLFILDIILNFRTTYVSQSGQVISAPRSI

299  CLHYVTTWFLLDVIAALPFDLLHAFKVNVYFGAHLLKTVRLLRLLRLLPR
301  GLHYLATWFFIDLIAALPFDLLYIFNITVTSLVHLLKTVRLLRLLRLLQK

349  LDRYSQYSAVVLTLLMAVFALLAHWVACVWFYIGQREIESSESELPEIGW
351  LERYSQCSAVVLTLLMSVFALLAHWMACIWYVIGRREMEANDPLLWDIGW

399  LQELARRLETPYYLVGRRPAGGNSSGQSDNCSSSSEANGTGLELLGGPSL
401  LHELGKRLEVPY----------------------VNGS----VGGPSR

449  RSAYITSLYFALSSLTSVGFGNVSANTDTEKIFSICTMLIGALMHAVVFG
423  RSAYIAALYFTLSSLTSVGFGNVCANTDAEKIFSICTMLIGALMHAVVFG

499  NVTAIIQRMYARRFLYHSRTRDLRDYIRIHRIPKPLKQRMLEYFQATWAV
473  NVTAIIQRMYSRRSLYHSRMKDLKDFIRVHRLPRPLKQRMLEYFQTTWAV

549  NNGIDTTELLQSLPDELRADIAMHLHKEVLQLPLFEAASRGCLRALSLAL
523  NSGIDANELLRDFPDELRADIAMHLNREILQLPLFGAASRGCLRALSLHI

599  RPAFCTPGEYLIHQGDALQALYFVCSGSMEVLKGGTVLAILGKGDLIGCE
573  KTSFCAPGEYLLRRGDALQAHYYVCSGSLEVLRDNHVLAILGKGDLIGAD

649  LPRREQ----------VVKANADVKGLTYCVLQCLQLAGLHDSLALYPEF
623  IPEPGQEPGLGADPNFVLKTSADVKALTYCGLQQLSSRGLAEVLRLYPEY

689  APRFSRGLRGELSYNLGAGGGSAEVD----TSSLSGDNTL-MSTLEEKE-
673  GAAFRAGLPRDLTFNLRQGSDTSGLSRFSRSPRLSQPRSESLGSSSDKTL

733  -TDGEQGPTVSPAPADEPSSPLLSPGCTSSSSAAKL-------LSPRRT-
723  PSITEAESGAEPGGGPRPRRPLLLPNLSPARPRGSLVSLLGEELPPFSAL

774  APRPRLGGRGRPGRAGALKAEAGPSAPPRALEG-----LRLPPMPWNVPP
773  VSSPSLSPSLSPALAGQ-GHSASPHGPPRCSAAWKPPQLLIPPLGTFGPP

819  DLSPRVVDGIED-GCGSDQPKFSFRVGQSGPECSSSPSPGPESGLLTVPH
822  DLSPRIVDGIEDSGSTAEAPSFRFS---RRPELPRPRSQAPPTGTRPSPE

868  GPSEARNT-DTLDKLRQAVTELSEQVLQMREGLQSLRQAVQLVLAPHREG
869  LASEAEEVKEKVCRLNQEISRLNQEVSQLSRELRHIHGLLQARLGPPGHP

917  PCPRASGEGPCPASTSGLLQPLCVDTGASSYCLQPPAGSVLSGTWPHPR-
919  AGSAWTPDPPCPQ-----LRPPCLSP-----CASRPPPSLQDTTLAEVHC

966  PGPPPLMAPWPWGPPASQSSPWPRATAFWTSTSDSEPPASGDLCSEPSTP
959  PASVGTMET----------------GTALLDLRPSILPPYPSE-----PDP

1016 ASPPPSEEGARTGPAEPVSQAEATSTGEPPPGSGGLALPWDPHSLEHVLI
989  LGPSPVPEAS--------------------PPTPSLLRHSFQSRS------

1066 GCHGSGTVQWTQEEGTGV.
1014 ----------------DTFH.
```

FIG. 2A

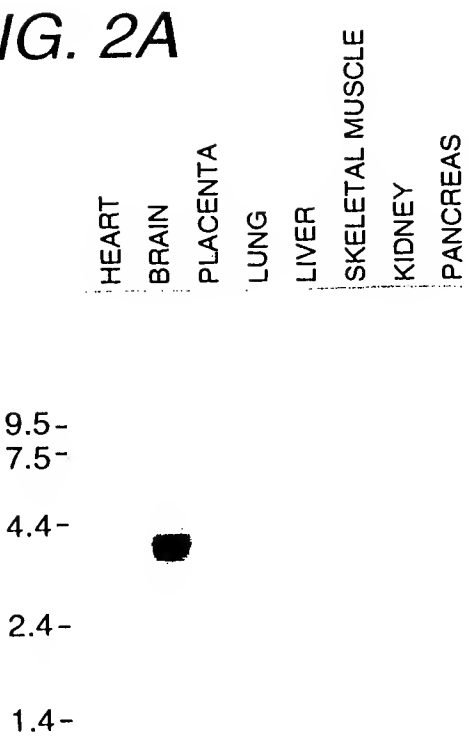

FIG. 2B

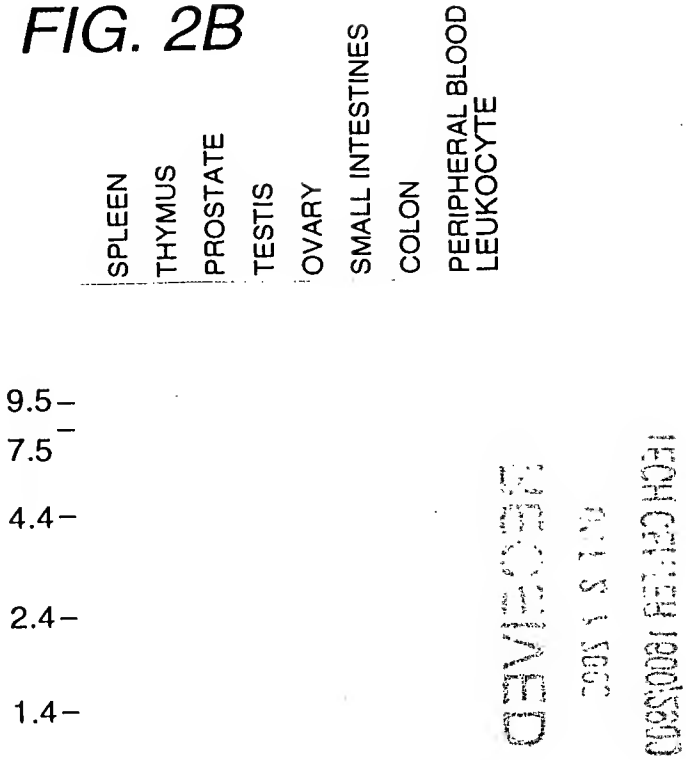

FIG. 2C

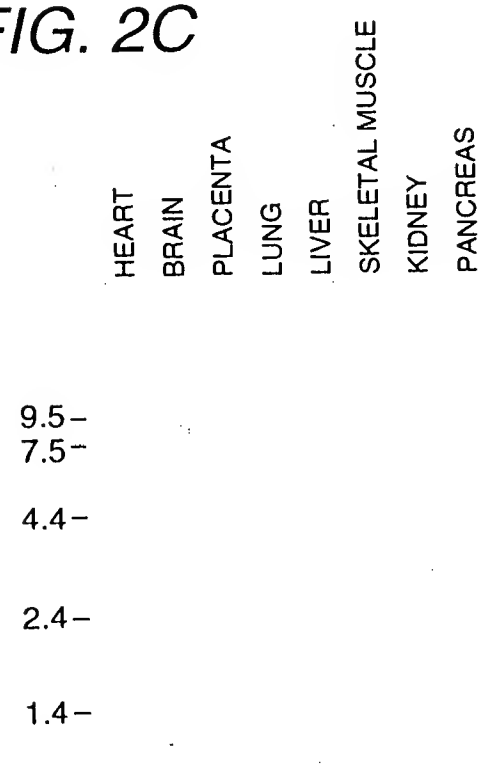

FIG. 2D

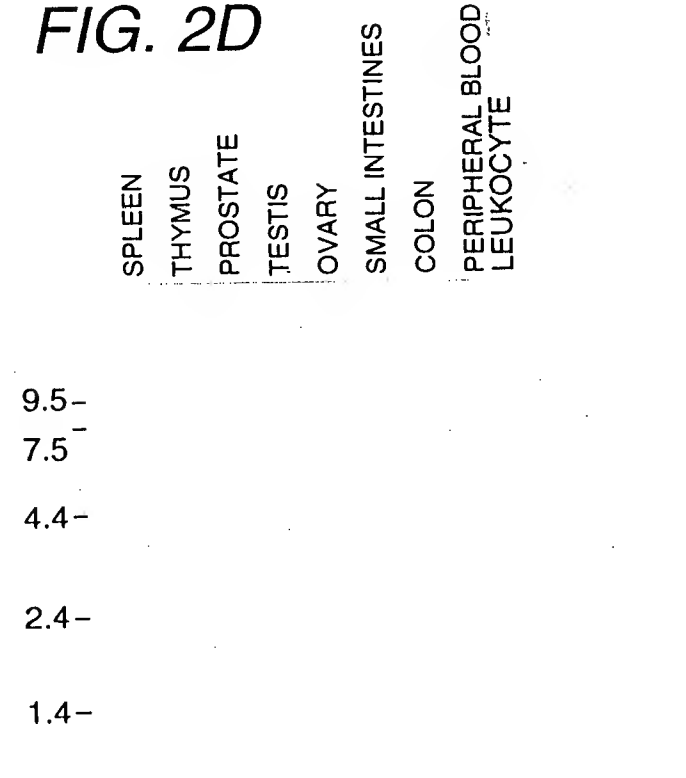

FIG. 3A

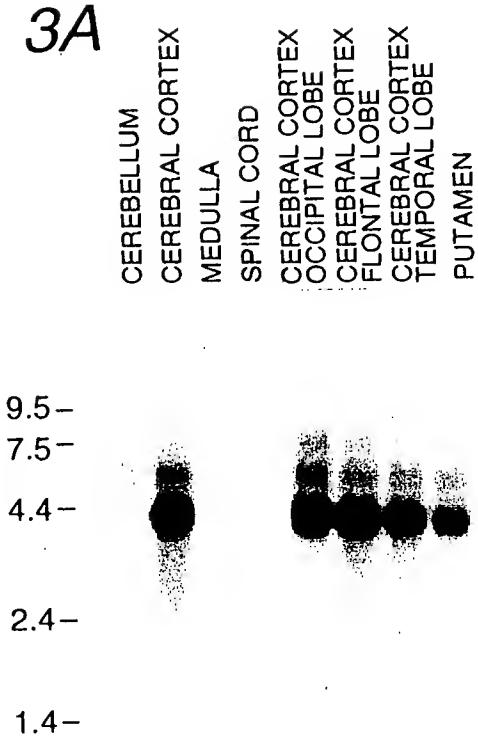

FIG. 3B

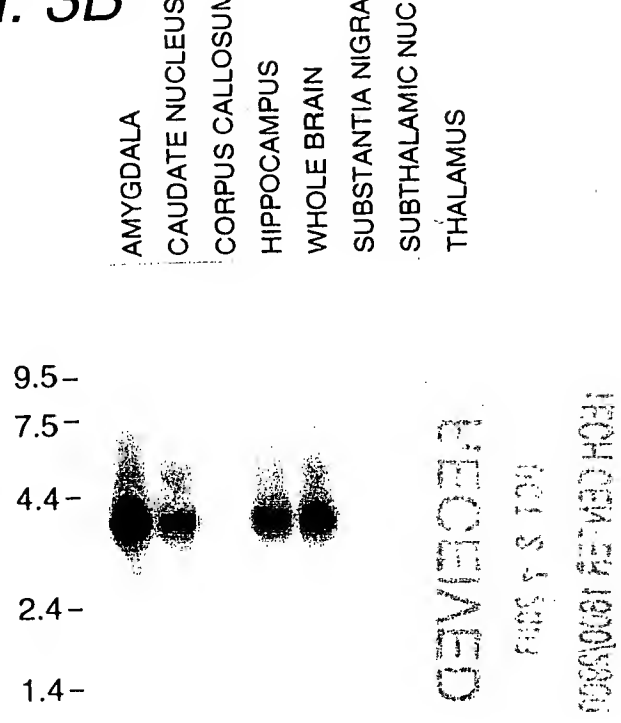

FIG. 3C

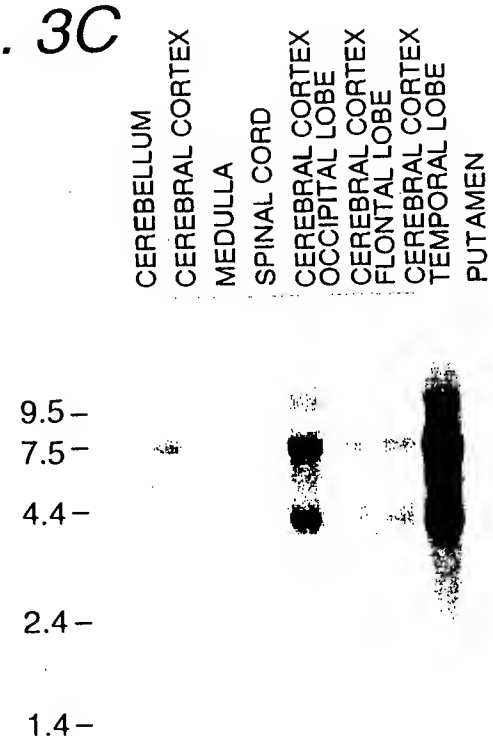

FIG. 3D

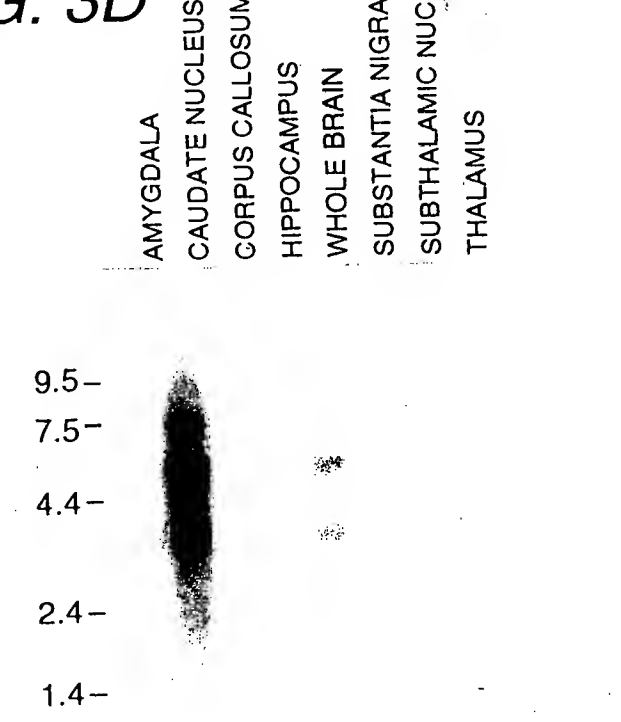

FIG. 4A

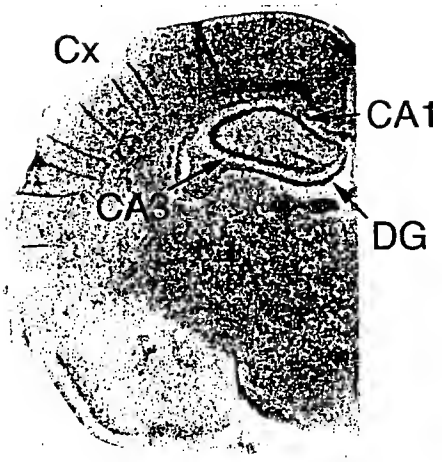

FIG. 4B

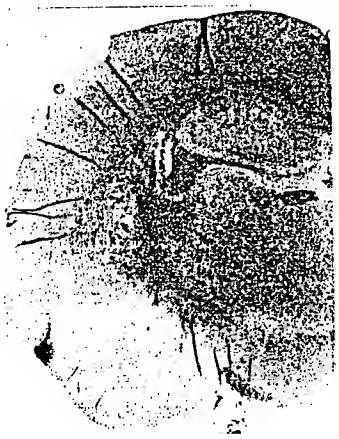

FIG. 4C

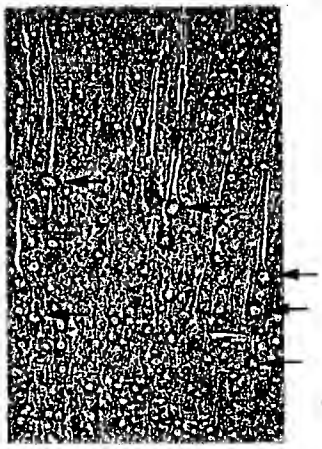

FIG. 4D

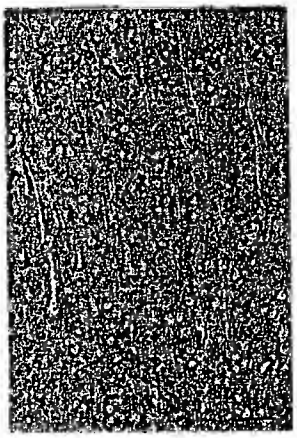

FIG. 5

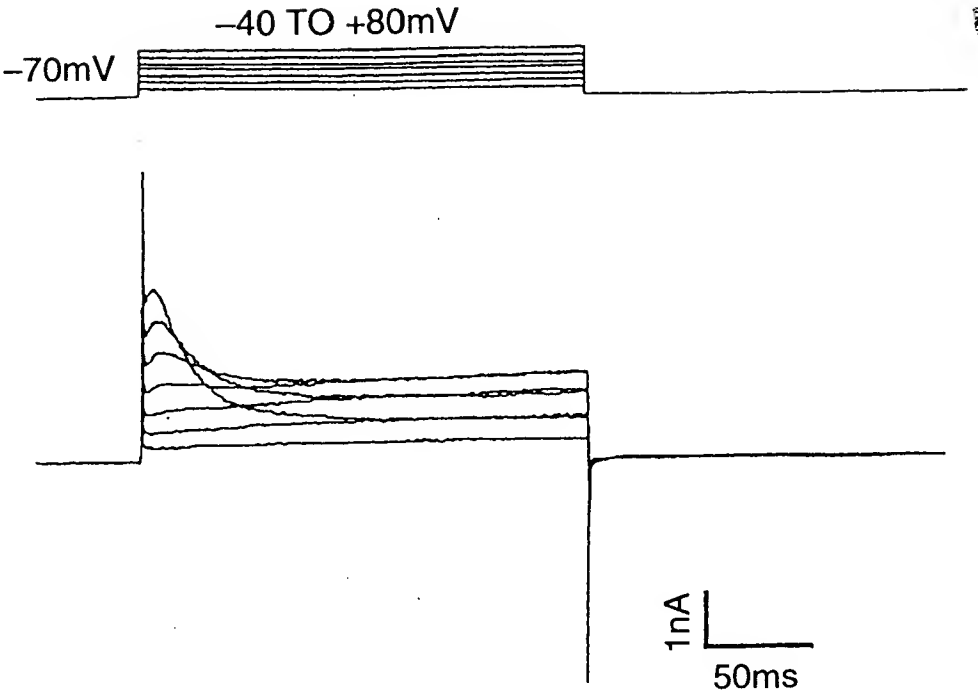

FIG. 6

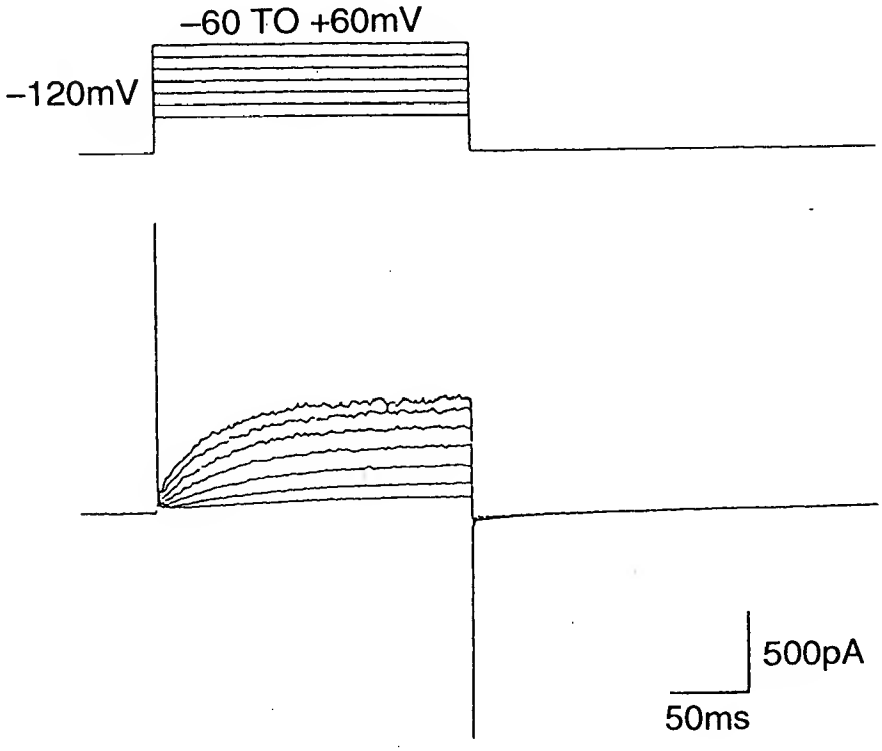

FIG. 7

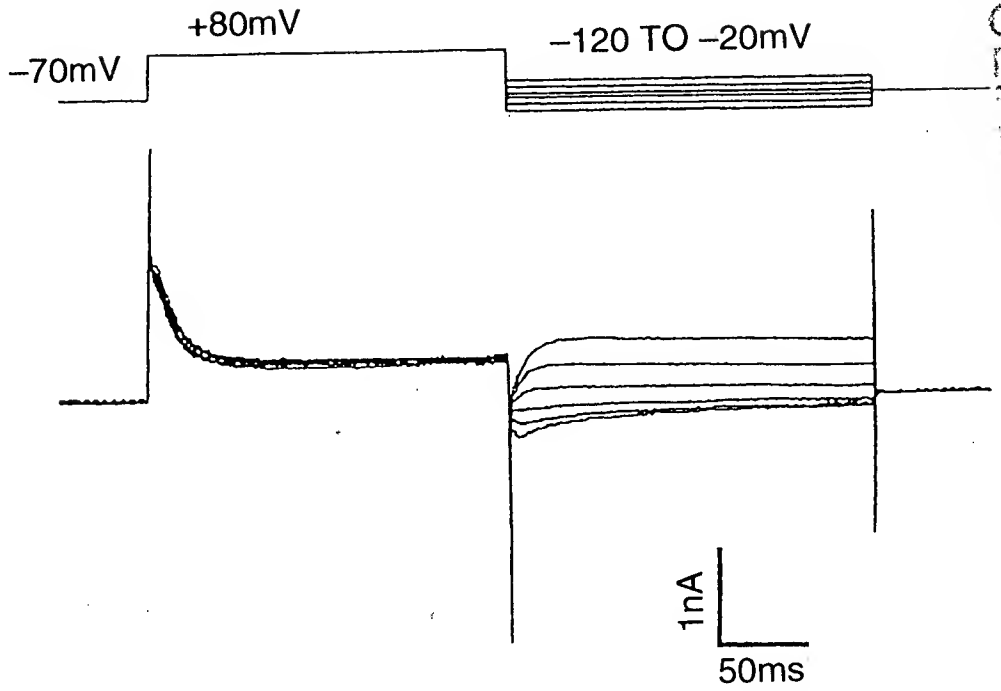

FIG. 8